

CLAIMS

What is claimed is:

1. A method for matching and consolidating addresses in a name and address database, the method comprising:

(a) sorting records from the name and address database and records from a standardized name and address file by a first e-mail address field to create a sorted name and address file;

(b) sorting records from a prior e-mail database and records from a converted e-mail file by a second e-mail address field to create a sorted e-mail file;

(c) matching said records from said sorted e-mail file against said records from said sorted name and address file, wherein each of said records of said sorted e-mail file that match a one of said records from said sorted name and address file has a name and address from each said matched sorted name and address record added to each of said matched record of said sorted e-mail file to create a matched name and address e-mail file;

(d) sorting records from said matched name and address e-mail file and records from said standardized name and address file by a first ZIP Code field and a first last name field to create a first sorted name and address transactions file;

(e) updating the name and address database by matching records from said first sorted name and address transactions file

22 against records from a prior consolidated name and address database
to create a new name and address database; and

24 (f) consolidating said new name and address database by
eliminating records from said new name and address database such
26 that only one record per an e-mail address per an individual in a
household remains to create a new consolidated name and address
28 database.

2 2. A method for matching and consolidating addresses in a
name and address database according to claim 1 further comprising:
preprocessing at least one outside data file by appending at
4 least one new field to each record in said at least one outside
data file to create at least one preprocessed data file;

6 converting said at least one preprocessed data file into
database records by applying a list conversion program to said at
8 least one preprocessed data file to create a converted name and
address file containing each of said database records that meet a
10 predetermined criteria, and to create said converted e-mail file
containing each of said database records that do not meet said
12 predetermined criteria; and

processing each of said converted database records contained
14 in said converted name and address file to standardize an address
data for each of said converted database records to create said
16 standardized name and address file.

3. A method for matching and consolidating addresses in a
2 name and address database according to claim 2 wherein said at
least one new field comprises at least one of a file code field, a
4 sequence number field, a transaction date field, and a value field.

4. A method for matching and consolidating addresses in a
2 name and address database according to claim 1 wherein said sorting
step (a) comprises excluding from said sorted name and address file
4 each record from the name and address database and each record from
said standardized name and address file that does not contain an e-
6 mail address in said e-mail address field.

5. A method for matching and consolidating addresses in a
2 name and address database according to claim 1 wherein said
matching step (c) comprises creating a new e-mail database
4 containing records from said sorted e-mail file that do not match
said records from said sorted name and address file, wherein said
6 new e-mail database becomes said prior e-mail database in a
subsequent run of the method for matching and consolidating
8 addresses in a name and address database.

6. A method for matching and consolidating addresses in a
2 name and address database according to claim 1 further comprising:

1 sending said first sorted name and address transactions file
2 out for change of address processing to create a change of address
3 processed transactions file.

1 7. A method for matching and consolidating addresses in a
2 name and address database according to claim 6 wherein said change
3 of address processing is performed by a United States Postal
4 Service licensed National Change Of Address vendor.

1 8. A method for matching and consolidating addresses in a
2 name and address database according to claim 6 further comprising:
3 applying said change of address processed transactions file to
4 said first sorted name and address transactions file; and
5 altering each record in said first sorted name and address
6 transactions file that has had an address change to create a name
7 and address applied transactions file containing each of said
8 altered records and containing each unaltered record.

1 9. A method for matching and consolidating addresses in a
2 name and address database according to claim 8 further comprising:
3 sorting records from said name and address applied
4 transactions file together with records from a change of address
5 applied database by a second ZIP Code field and a second last name
6 field to create a second sorted name and address transactions file.

10. A method for matching and consolidating addresses in a
name and address database according to claim 1 wherein said
updating step (e) further comprises:

when a first record with an incomplete address matches a
second record with a complete address, replacing said incomplete
address of said first record with said complete address from said
second record.

11. A method for matching and consolidating addresses in a
name and address database according to claim 1 wherein said
updating step (e) comprises:

utilizing a match code technique for matching said records
from said first sorted name and address transactions file against
said records from said prior consolidated name and address
database.

12. A method for matching and consolidating addresses in a
name and address database according to claim 11 wherein said match
code technique comprises:

converting a name and address from each record of said first
sorted name and address transactions file into a match code;

converting a name and address from each record of said prior
consolidated name and address database into said match code; and

matching by said match code of said each record of said first
sorted name and address transactions file against said match code

10 of said each record of said prior consolidated name and address
database.

13. A method for matching and consolidating addresses in a
2 name and address database according to claim 12 wherein said match
code for said each record of said first sorted name and address
4 transactions file is comprised of a portion of characters of said
name and address of each said record of said first sorted name and
6 address transactions file, and said match code for said each record
of said prior consolidated name and address database is comprised
8 of said portion of characters of said name and address of each said
record of said prior consolidated name and address database.

14. A method for matching and consolidating addresses in a
2 name and address database according to claim 13 wherein said
portion of characters are drawn from a ZIP Code, a surname, and a
4 street address.

15. A method for matching and consolidating addresses in a
2 name and address database according to claim 13 wherein said
portion of characters are drawn from a first name, a last name, and
4 a street address.

16. A method for matching and consolidating addresses in a
name and address database according to claim 1 wherein said
updating step (e) comprises:

utilizing a match algorithm technique for matching said
records from said first sorted name and address transactions file
against said records from said prior consolidated name and address
database.

17. A method for matching and consolidating addresses in a
name and address database according to claim 16 wherein said match
algorithm technique comprises:

sorting said records from said first sorted name and address
transactions file and said records from said prior consolidated
name and address database by a partial match code, wherein said
partial match code comprises a portion of characters of a name and
address of each said record;

grouping said sorted records by names having a same partial
match code; and

comparing each said grouped sorted record against every other
said grouped sorted record.

18. A method for matching and consolidating addresses in a
name and address database according to claim 16 wherein said match
algorithm matches a percentage of at least one critical field,

4 wherein each said at least one critical field is matched character
by character, and a match percent is calculated as

6 match percent =

8
$$\frac{\text{Number of Matches}}{(\# \text{ of characters in both at least one critical fields})/2}.$$

19. A method for matching and consolidating addresses in a
2 name and address database according to claim 1 wherein said
consolidating step (f) comprises:

4 writing a transaction level data link record for each record
in said new consolidated name and address database to create a
6 transaction level data link file.

20. A method for matching and consolidating addresses in a
2 name and address database according to claim 1 wherein said
consolidating step (f) comprises:

4 assigning a two-digit code to each record within a household
in said new consolidated name and address database;

6 determining which of said each record within a household has a
lowest code value; and

8 placing the street address from said record within a household
having the lowest code in all records within said household.

21. A method for matching and consolidating addresses in a
2 name and address database according to claim 19 wherein a first
position of said two-digit code is based on the presence of a ZIP+4

4 Code in each of said records within said household in said new
consolidated name and address database, and a second position of
6 said two-digit code is based on a type of address found in each of
said records within said household in said new consolidated name
8 and address database.

22. A computer system for consolidating addresses in a name
2 and address database, said computer system comprising:

dynamic data link software;

4 a storage device for storing said dynamic data link software
and the name and address database;

6 a memory for loading said dynamic data link software from said
storage device; and

8 a processing element, wherein said dynamic data link software
loaded into said memory is executable by said processing element,
10 wherein upon execution by said processing element, said dynamic
data link software accesses and sorts records from the name and
12 address database and records from a standardized name and address
file by a first e-mail address field to create a sorted name and
14 address file, and

16 said dynamic data link software sorts records from a prior e-
mail database and records from a converted e-mail file by a second
e-mail address field to create a sorted e-mail file, and

18 said dynamic data link software matches said records from said
sorted e-mail file against said records from said sorted name and
20 address file, wherein each of said records of said sorted e-mail
file that match a one of said records from said sorted name and
22 address file has a name and address from each said matched sorted
name and address record added to each of said matched record of
24 said sorted e-mail file to create a matched name and address e-mail
file, and

26 said dynamic data link software sorts records from said
matched name and address e-mail file and records from said
28 standardized name and address file by a first ZIP Code field and a
first last name field to create a first sorted name and address
30 transactions file, and

 said dynamic data link software updates the name and address
32 database by matching records from said first sorted name and
address transactions file against records from a prior consolidated
34 name and address database to create a new name and address
database, and

36 said dynamic data link software consolidates said new name and
address database by eliminating records from said new name and
38 address database such that only one record per an e-mail address
per an individual in a household remains to create a new
40 consolidated name and address database.

23. A computer system for consolidating addresses in a name
2 and address database according to claim 22 wherein said dynamic
data link software preprocesses at least one outside data file by
4 appending at least one new field to each record in said at least
one outside data file to create at least one preprocessed data
6 file, and

 said dynamic data link software converts said at least one
8 preprocessed data file into database records by applying a list
conversion program to said at least one preprocessed data file to

10 create a converted name and address file containing each of said
database records that meet a predetermined criteria, and

12 said dynamic data link software creates said converted e-mail
file containing each of said database records that do not meet said
14 predetermined criteria, and

said dynamic data link software processes each of said
16 converted database records contained in said converted name and
address file to standardize an address data for each of said
18 converted database records to create said standardized name and
address file.

24. A computer system for consolidating addresses in a name
2 and address database according to claim 22 wherein said dynamic
data link software utilizes a match code technique for matching
4 said records from said first sorted name and address transactions
file against said records from said prior consolidated name and
6 address database.

25. A computer system for consolidating addresses in a name
2 and address database according to claim 22 wherein said dynamic
data link software utilizes a match algorithm technique for
4 matching said records from said first sorted name and address
transactions file against said records from said prior consolidated
6 name and address database.

26. An apparatus for consolidating addresses in a name and
address database, said apparatus comprising:

storage means for storing a dynamic data link software and the
name and address database;

memory means for loading said dynamic data link software from
said storage means; and

processing means, wherein said dynamic data link software
loaded into said memory is executable by said processing means,
wherein upon execution by said processing means, said dynamic data
link software accesses and sorts records from the name and address
database and records from a standardized name and address file by a
first e-mail address field to create a sorted name and address
file, and

said dynamic data link software sorts records from a prior e-
mail database and records from a converted e-mail file by a second
e-mail address field to create a sorted e-mail file, and

said dynamic data link software matches said records from said
sorted e-mail file against said records from said sorted name and
address file, wherein each of said records of said sorted e-mail
file that match a one of said records from said sorted name and
address file has a name and address from each said matched sorted
name and address record added to each of said matched record of
said sorted e-mail file to create a matched name and address e-mail
file, and

26 said dynamic data link software sorts records from said
matched name and address e-mail file and records from said
standardized name and address file by a first ZIP Code field and a
28 first last name field to create a first sorted name and address
transactions file, and

30 said dynamic data link software updates the name and address
database by matching records from said first sorted name and
32 address transactions file against records from a prior consolidated
name and address database to create a new name and address
34 database, and

36 said dynamic data link software consolidates said new name and
address database by eliminating records from said new name and
address database such that only one record per an e-mail address
38 per an individual in a household remains to create a new
consolidated name and address database.

27. An apparatus for consolidating addresses in a name and
2 address database according to claim 26 wherein said dynamic data
link software preprocesses at least one outside data file by
4 appending at least one new field to each record in said at least
one outside data file to create at least one preprocessed data
6 file, and

said dynamic data link software converts said at least one
8 preprocessed data file into database records by applying a list
conversion program to said at least one preprocessed data file to

10 create a converted name and address file containing each of said
database records that meet a predetermined criteria, and

12 said dynamic data link software creates said converted e-mail
file containing each of said database records that do not meet said
14 predetermined criteria, and

said dynamic data link software processes each of said
16 converted database records contained in said converted name and
address file to standardize an address data for each of said
18 converted database records to create said standardized name and
address file.

28. An apparatus for consolidating addresses in a name and
2 address database according to claim 26 wherein said dynamic data
link software utilizes a match code technique for matching said
4 records from said first sorted name and address transactions file
against said records from said prior consolidated name and address
6 database.

29. An apparatus for consolidating addresses in a name and
2 address database according to claim 26 wherein said dynamic data
link software utilizes a match algorithm technique for matching
4 said records from said first sorted name and address transactions
file against said records from said prior consolidated name and
6 address database.

30. A method for updating a name and address database, the
2 method comprising:

(a) utilizing an e-mail address for at least one key match
4 element in matching a plurality of records in the name and address
database with a plurality of records from at least one new input
6 data stream;

(b) grouping a plurality of e-mail addresses for a same
8 individual matched from said plurality of records in the name and
address database and said plurality of records from at least one
10 new input data stream forming a plurality of subgroup of records;

(c) comparing dynamically a plurality of common elements from
12 a first subgroup of said plurality of subgroup of records;

(d) applying a predetermined criteria to said plurality of
14 common elements to select a best e-mail address; and

(e) saving said selected best e-mail address with a record
16 for said same individual in the name and address database.

31. A method for updating a name and address database
2 according to claim 30 wherein said predetermined criteria to select
a best e-mail address comprises at least one of a last used date, a
4 frequency of usage, and a monetary value associated with the e-mail
address.

32. A method for updating a name and address database
2 according to claim 30 further comprising:

repeating steps (c), (d), and (e) for a next subgroup of
4 records from said plurality of subgroup of records until all of
said plurality of subgroup of records are processed.

33. A method for updating a name and address database
2 according to claim 30 further comprising:

saving each of said plurality of records from the name and
4 address database with a blank street address that have an e-mail
address, a name, and a ZIP Code in the name and address database;
6 and

saving each of said plurality of records from said at least
8 one new input data stream with a blank street address that have an
e-mail address, a name, and a ZIP Code in the name and address
10 database.

34. A method for updating a name and address database, the
2 method comprising:

(a) applying a predetermined match algorithm to a plurality
4 of records from at least one new input data stream and to a
plurality of records from the name and address database;

(b) grouping said plurality of records from said at least one
6 new input data stream and said plurality of records from the name
and address database based on the results of said predetermined
8 match algorithm forming a plurality of subgroup of records;

(c) from a first subgroup of records from said plurality of
10 subgroup of records, selecting a plurality of best elements; and

(d) when said first subgroup of records contains at least one
12 record from the name and address database, updating said at least
one record from the name and address database with said plurality
14 of best elements; and

(e) when said first subgroup of records does not contain said
16 at least one record from the name and address database, creating a
18 new record having said plurality of best elements.

35. A method for updating a name and address database
2 according to claim 34 further comprising:

setting a percent match on at least one field from said
4 plurality of records from the name and address database and from
said plurality of records from said new input data stream prior to
6 said applying step (a).

36. A method for updating a name and address database
2 according to claim 34 wherein said creating step (e) further
comprises:

4 creating a new household ID and a new Individual ID for said
new record having said plurality of best elements.

37. A method for updating a name and address database
2 according to claim 34 further comprising:

repeating steps (c), (d), and (e) for a next subgroup of
4 records from said plurality of subgroup of records until all of
said plurality of subgroup of records are processed.

38. Computer-readable media tangibly embodying a program of
instructions executable by a computer to perform a method for
matching and consolidating addresses in a name and address database
in a computer system, said method comprising:

(a) preprocessing at least one outside name and address file
to append at least one new field to each record in said at least
one outside name and address file;

(b) preprocessing at least one outside e-mail file to append
at least one new field to each record in said at least one outside
e-mail file;

(c) converting said preprocessed at least one outside name
and address file into a plurality of database records through a
list conversion program;

(d) converting said preprocessed at least one outside e-mail
file into a plurality of database records through said list
conversion program;

(e) standardizing address data for each of said plurality of
database records from said at least one outside name and address
file;

(f) sorting said plurality of database records each having
said standardized address data from said at least one outside name
and address file with a plurality of records from a prior
consolidated name and address database by a first e-mail address
field yielding a sorted name and address file;

(g) sorting said converted plurality of database records from
said at least one outside e-mail file with a plurality of records
from a prior e-mail address database by a second e-mail address
field yielding a sorted e-mail file;

(h) matching said sorted name and address file with said
sorted e-mail file yielding a matched name and address e-mail file;

(i) sorting said plurality of database records each having
said standardized address data from said at least one outside name
and address file with said matched name and address e-mail file
yielding a first sorted name and address transactions file;

(j) matching said prior consolidated name and address
database with said first sorted name and address transactions file
using a merge/purge algorithm yielding a new name and address
database; and

(k) eliminating a plurality of records from said new name and
address database such that only one record per e-mail address per
individual in a household remains yielding a new consolidated name
and address database.

39. Computer-readable media tangibly embodying a program of
instructions executable by a computer to perform a method according
to claim 38 wherein said at least one new field comprises at least
one of a file code field, a sequence number field, a transaction
date field, and a value field.

40. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 38 wherein said sorting step (f) comprises excluding from
4 said sorted name and address file each record from the name and
address database and each record having said standardized address
6 data from said at least one outside name and address file that does
not contain an e-mail address in said first e-mail address field.

41. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 38 wherein said matching step (h) comprises creating a new
4 e-mail database containing a plurality of records from said sorted
e-mail file that do not match any records from said sorted name and
6 address file, wherein said new e-mail database becomes said prior
e-mail database in a subsequent run of the method for matching and
8 consolidating addresses in the name and address database.

42. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 38 further comprising:

4 sending said first sorted name and address transactions file
out for change of address processing to create a change of address
6 processed transactions file.

43. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 42 wherein said change of address processing is performed
4 by a Unites States Postal Service licensed National Change Of
Address vendor.

44. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 42 further comprising:

4 applying said change of address processed transactions file to
said first sorted name and address transactions file; and

6 altering each record in said first sorted name and address
transactions file that has had an address change to create a name
8 and address applied transactions file containing each of said
altered records and containing each unaltered record.

45. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 44 further comprising:

4 sorting records from said name and address applied
transactions file together with records from a change of address
6 applied database by a second ZIP Code field and a second last name
field to create a second sorted name and address transactions file.

46. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method according to claim 38 wherein said matching step (j) further comprises:

when a first record with an incomplete address matches a second record with a complete address, replacing said incomplete address of said first record with said complete address from said second record.

47. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method according to claim 38 wherein said matching step (j) comprises:

utilizing a match code technique for matching said records from said first sorted name and address transactions file against said records from said prior consolidated name and address database.

48. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method according to claim 47 wherein said match code technique comprises:

converting a name and address from each record of said first sorted name and address transactions file into a match code;

converting a name and address from each record of said prior consolidated name and address database into said match code; and

matching by said match code of said each record of said first sorted name and address transactions file against said match code

10 of said each record of said prior consolidated name and address
database.

49. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 48 wherein said match code for each said record of said
4 first sorted name and address transactions file is comprised of a
portion of characters of said name and address of each said record
6 of said first sorted name and address transactions file, and said
match code for each said record of said prior consolidated name and
8 address database is comprised of said portion of characters of said
name and address of each said record of said prior consolidated
10 name and address database.

50. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 49 wherein said portion of characters are drawn from a ZIP
4 Code, a surname, and a street address.

51. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 49 wherein said portion of characters are drawn from a
4 first name, a last name, and a street address.

52. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method according to claim 38 wherein said matching step (j) comprises:

utilizing a match algorithm technique for matching said records from said first sorted name and address transactions file against said records from said prior consolidated name and address database.

53. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method according to claim 52 wherein said match algorithm technique comprises:

sorting said records from said first sorted name and address transactions file and said records from said prior consolidated name and address database by a partial match code, wherein said partial match code comprises a portion of characters of a name and address of each said record;

grouping said sorted records by names having a same partial match code; and

comparing each said grouped sorted record against every other said grouped sorted record.

54. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method according to claim 52 wherein said match algorithm matches a percentage of at least one critical field, wherein each said at least one critical

field is matched character by character, and a match percent is
6 calculated as

match percent =

$$\frac{\text{Number of Matches}}{(\# \text{ of characters in both at least one critical fields})/2}.$$

55. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 38 wherein said eliminating step (k) comprises:

4 writing a transaction level data link record for each record
in said new consolidated name and address database to create a
6 transaction level data link file.

56. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 38 wherein said eliminating step (k) comprises:

4 assigning a two-digit code to each record within a household
in said new consolidated name and address database;

6 determining which of said each record within a household has a
lowest code value; and

8 placing the street address from said record within a household
having the lowest code in all records within said household.

57. Computer-readable media tangibly embodying a program of
2 instructions executable by a computer to perform a method according
to claim 56 wherein a first position of said two-digit code is

4 based on the presence of a ZIP+4 Code in each of said records
within said household in said new consolidated name and address
6 database, and a second position of said two-digit code is based on
a type of address found in each of said records within said
8 household in said new consolidated name and address database.